

an  
cont

said pair of tubes, said indicator comprising a speaker and a sound card that generate a sound having a frequency that is proportional to the movement of blood in at least one of said pair of tubes.

#### REMARKS

Claims 3, 7-10, 14, 28-41, 44, 46-47, 49-50, 52, 53 and 56 remain in this application with Claims 3, 7, 8-10, 14, 46-47, 49, 52-53 and 56 having been amended; Claims 17-27 and 42 have been cancelled in response to a restriction requirement and Claims 1-2, 4-6, 11-13, 15-27, 42-43, 45, 48 and 51 have been cancelled to expedite the prosecution of this application. It should be understood that Claims 1-2, 4-6, 11-13, 15-27, 42-43, 45, 48 and 51 have been cancelled only to expedite the prosecution of this application and their cancellation should not be interpreted as an admission that they are not patentable. To the contrary, these cancelled claims are believed to be patentable and will be the subject of a continuation application to be filed shortly.

Applicants hereby acknowledge, with appreciation, the indication that Claims 33-41 are allowable.

The Examiner objected to Claims 3, 7-10, 14, 28-32, 44, 46-47, 49-50, 52-53 and 56 as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. To that end, Applicants have amended these claims accordingly.

It should be noted that Applicants had earlier filed several information disclosure statements including PTO Form 1449 along with copies of each of the references listed. However, some of these PTO Form 1449 were not included with the Examiner's office

action indicating that she had considered them. To that end, Applicants have attached as Exhibits A-B, a copy of these information disclosure statements along with the stamped return receipt post card indicating that the PTO received them. Applicants respectfully request that these references be considered and that a copy of the PTO Form 1449, signed by the Examiner, be forwarded to the undersigned. Also attached as Exhibit C is a copy of the PTO Form 1449 that was signed by the Examiner but two of the references do not have a signature as indicated by the highlighted portion. It is not certain if the Examiner inadvertently missed these but Applicants respectfully request that they be considered.

Also attached as Exhibit D is an Information Disclosure Statement including copies of references that Applicants wish made of record in this case.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **“Version with markings to show changes made.”**

In view of the foregoing amendments and remarks, it is respectfully submitted that Claims 3, 7-10, 14, 28-41, 44, 46-47, 49-50, 52, 53 and 56 now appearing in this application are allowable and such favorable action is respectfully requested. The Examiner is encouraged to contact the undersigned by telephone if it is believed that further discussion may lead to an early allowance of the claims.

Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,  
COHEN & POKOTILOW, LTD.

October 17, 2002

By

  
Scott M. Slomowitz  
Reg. No. 38,032  
Seven Penn Center  
12th Floor  
1635 Market Street  
Philadelphia, PA 19103-2212  
(215) 567-2010  
Attorneys for Applicants

#### CERTIFICATE OF MAILING

I hereby certify that the foregoing AMENDMENT re Application Serial No. 09/628,401 is being deposited with the United States Postal Services as first class mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on this 17<sup>th</sup> day of October, 2002.

  
Scott M. Slomowitz

**Version with Markings to Show Changes Made**

**IN THE CLAIMS:**

Please cancel Claims 1-2.

Please amend Claim 3 as follows:

3. (Amended) A method for determining the work of the heart of a living being, said method comprising the steps of:

(a) measuring the viscosity of the circulating blood of the living being over a plurality of shear rates;

(b) detecting a pressure pulse of the heart of the living being; and

(c) determining the work of the heart from a combination of said viscosity of the circulating blood of, and the pressure pulse of the heart of, the living being and [The method of Claim 2] wherein said step of determining the work of the heart (WOH) is defined as:

$$WOH = \frac{\pi d^4}{128TL} \int_0^T \frac{P^2(t)}{\mu(t)} dt$$

where:

T is a period of one cardiac cycle;

P(t) is the pressure pulse of the heart;

d represents the average inside diameter of the entire vascular system from the heart to the vein;

L represents the average length of blood vessels from the heart to vein; and

$\mu(t)$  is said viscosity of the circulating blood over a plurality of shear rates.

Please cancel Claims 4-6.

Please amend Claim 7 as follows:

7. (Amended) A method for reducing endothelial cell dysfunction in a living being which is caused by oscillating flow of the circulating blood of the living being, said method comprising the step of reducing the rate of ejection of the blood from the heart of the living being and [The method of Claim 6] wherein said step of reducing the rate of ejection of the blood from the heart comprises administering a  $\beta$ -blocker to the living being.

Please amend Claim 8 as follows:

8. (Amended) A method for reducing endothelial cell dysfunction in a living being which is caused by oscillating flow of the circulating blood of the living being, said method comprising the step of reducing the rate of ejection of the blood from the heart of the living being and [The method of Claim 6] wherein said step of reducing the rate of ejection of the blood from the heart comprises minimizing or eliminating smoking by the living being.

Please amend Claim 9 as follows:

9. (Amended) A method for reducing endothelial cell dysfunction in a living being which is caused by oscillating flow of the circulating blood of the living being, said method comprising the step of reducing the rate of ejection of the blood from the heart of the living being and [The method of Claim 6] wherein said step of reducing the rate of ejection of the blood from the heart comprises minimizing or eliminating the ingestion of caffeine by the living being.

Please amend Claim 10 as follows:

10. (Amended) A method for reducing endothelial cell dysfunction in a living being which is caused by oscillating flow of the circulating blood of the living being, said method comprising the step of reducing the rate of ejection of the blood from the heart of the living being and [The method of Claim 6] wherein said step of reducing the rate of ejection of the blood from the heart comprises ingesting of alcohol by the living being.

Please cancel Claims 11-13.

Please amend Claim 14 as follows:

14. (Amended) A method for reducing endothelial cell dysfunction in a living being which is caused by oscillating flow of the circulating blood of the living being, said method comprising the step of reducing the viscosity of the circulating blood of the living being and [The method of Claim 11] wherein said step of reducing the viscosity of the circulating blood of the living being comprises administering fish oil to the living being.

Please cancel Claims 15-27.

Please cancel Claims 42-43.


Please cancel Claim 45.

Please amend Claim 46 as follows:

46. (Amended) An apparatus for determining the deformability of red blood cells of the circulating blood of a living being, said apparatus comprising a plurality of tubes closely adjacent one another and each having an inner diameter different from its neighbor, each of said plurality of tubes having an opening exposed to a flow of circulating blood and each of said tubes being closed at its other end for collecting red blood cells therein and [The

apparatus of Claim 44] wherein the inner diameters of said plurality of tubes is within the range of 1 $\mu$ m to 10 $\mu$ m.

Please amend Claim 47 as follows:

47. (Amended) An apparatus for determining the deformability of red blood cells of the circulating blood of a living being, said apparatus comprising: 


a plurality of tubes closely adjacent one another and each having an inner diameter different from its neighbor, each of said plurality of tubes having an opening exposed to a flow of circulating blood and each of said tubes being closed at its other end for collecting red blood cells therein; [The apparatus of Claim 44 further comprising:]

an illuminator for passing light through each one of the plurality of tubes as they collect red blood cells in accordance with their respective inner diameters and wherein respective light rays, of varying degrees of redness corresponding to the amount of red blood cells collected in each of said plurality of tubes, emerge from said plurality of tubes; and

a redness color detector for detecting the degree of redness of each of said emerging light rays corresponding to each of said plurality of tubes.

Please cancel Claim 48.

Please amend Claim 49 as follows:

49. (Amended) An apparatus for detecting the lubricity of the circulating blood of a living being as the blood travels through the vascular system of the living being, said apparatus comprising: 

(a) a transparent tube for passing a falling column of the circulating blood of the living being;

(b) an illuminator for directing light at a portion of said transparent tube that contains a residue left by said falling column;

(c) a detector for detecting any light that passes through the transparent tube and residue and generating corresponding detection data,  
[The apparatus of Claim 48 wherein] said detector comprising[es] a charge coupled device chip that generates pixel Gray scale values for said detection data; and

(d) calculator for receiving said detection data and generating a lubricity value based on said detection data.

Please cancel Claim 51.

Please amend Claim 52 as follows:

52. (Amended) An apparatus for effecting the viscosity measurement of circulating blood in a living being, said apparatus comprising:

a lumen arranged to be coupled to the vascular system of the being;

a pair of tubes having respective first ends coupled to said lumen for receipt of circulating blood from the being, one of said pair of tubes comprising a capillary tube having some known parameters;

a valve for controlling the flow of circulating blood from the being's vascular system to said pair of tubes; and



an analyzer, coupled to said valve, for controlling said valve to permit the flow of blood into said pair of tubes whereupon the blood in each of said pair of tubes assumes a respective initial position with respect thereto, said analyzer also being arranged for operating said valve to isolate said pair of tubes from the being's vascular system and for coupling said pair of tubes together so that the position of the blood in said pair of tubes changes, said analyzer also being arranged for monitoring the blood position change in at least one of said tubes and calculating the viscosity of the blood based thereon, said analyzer comprising an indicator that generates an indication as to movement of the blood in at least one of said pair of tubes and [The apparatus of Claim 51] wherein said indicator comprises a flashing light whose flash rate is proportional to the movement of blood in at least one of said pair of tubes.

Please amend Claim 53 as follows:

53. (Amended) An apparatus for effecting the viscosity measurement of circulating blood in a living being, said apparatus comprising:

a lumen arranged to be coupled to the vascular system of the being;

a pair of tubes having respective first ends coupled to said lumen for receipt of circulating blood from the being, one of said pair of tubes comprising a capillary tube having some known parameters;

a valve for controlling the flow of circulating blood from the being's vascular system to said pair of tubes; and

an analyzer, coupled to said valve, for controlling said valve to permit the flow of blood into said pair of tubes whereupon the blood in each of said pair of tubes assumes a respective initial position with respect thereto, said analyzer also being arranged for operating said valve to isolate said pair of tubes from the being's vascular system and for coupling said pair of tubes together so that the position of the blood in said pair of tubes changes, said analyzer also being arranged for monitoring the blood position change in at least one of said tubes and calculating the viscosity of the blood based thereon, said analyzer comprising an indicator that generates an indication as to movement of the blood in at least one of said pair of tubes, [The apparatus of Claim 51 wherein] said indicator comprising[es] a speaker and a sound card that generate a sound having a frequency that is proportional to the movement of blood in at least one of said pair of tubes.

Please cancel Claims 54-55.

Please amend Claim 56 as follows:

56. (Amended) An apparatus for effecting the viscosity measurement of circulating blood in a living being, said apparatus comprising:

a lumen arranged to be coupled to the vascular system of the being;

a pair of tubes having respective first ends and second ends, said first ends being coupled together via a capillary tube having some known parameters;

a valve for controlling the flow of circulating blood from the being's vascular system to said pair of tubes, said valve being coupled to a second end of one of said pair of tubes and being coupled to said lumen; and

an analyzer, coupled to said valve, for controlling said valve to permit the flow of blood into said pair of tubes whereupon the blood in each of said pair of tubes assumes a respective initial position with respect thereto, said analyzer also being arranged for operating said valve to isolate said pair of tubes from the being's vascular system so that the position of the blood in said pair of tubes changes, said analyzer also being arranged for monitoring the blood position change in at least one of said tubes and calculating the viscosity of the blood based thereon, said analyzer comprising an indicator that generates an indication as to movement of the blood in at least one of said pair of tubes, [The apparatus of Claim 54 wherein] said indicator comprising[es] a speaker and a sound card that generate a sound having a frequency that is proportional to the movement of blood in at least one of said pair of tubes.



A

RECEIVED  
OCT 24 2002  
TECHNOLOGY CENTER R3700

App: Kenneth Kensey, et al.

ASN: 09/628,401

fpr" APPARATUS & METHODS FOR COMPREHENSIVE BLOOD ANALYSIS  
INCLUDING WORK OF AND CONTRA CTILITY OF HEART AND  
THERAPEUTIC APPLICATIONS AND COMPOSITIONS THEREOF

The PTO stamp upon this card acknowledges the receipt  
of a Information Disclosures Statement;

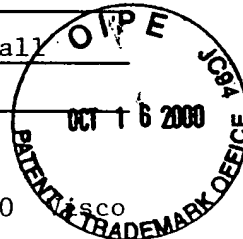
Form 1449 listing all references; Copies of all  
references.

re the above entitled matter.

SMS/jpf

V1025/20044

Mailed 10/11/00





PATENT #12  
V1025/20044  
B. Webb  
10/29/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
PATENT EXAMINING OPERATION

Applicant : Kenneth Kensey, William N. Hogenauer,  
and Young Cho

Serial No. : 09/628,401

Filed : August 1, 2000

For : APPARATUS AND METHODS FOR  
COMPREHENSIVE BLOOD ANALYSIS,  
INCLUDING WORK OF, AND CONTRACTILITY  
OF, HEART AND THERAPEUTIC  
APPLICATIONS AND COMPOSITIONS  
THEREOF

RECEIVED  
OCT 24 2002  
TECHNOLOGY CENTER R3700

**INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 CFR 1.97 (b) (1)**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

This Information Disclosure Statement is being filed pursuant to 37 CFR 1.97 (b) (1).

The present application is a Continuation-in-Part of ASN 09/501,856, which is based on ASN 08/919,906, which is now U.S. Patent No. 6,019,735.

Applicant now wishes to make of record all references listed in the above US patent and patent application. The relevance of several of these references are identified in the background of the invention of the present application. None of these references are not believed to anticipate nor render obvious the subject matter of the present application.

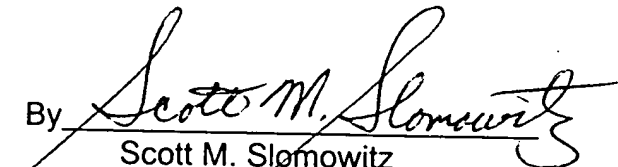
This Information Disclosure Statement is being filed within three months of the filing date of this application.

Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,  
COHEN & POKOTILOW, LTD.

October 11, 2000

By



Scott M. Slomowitz

Reg. No. 39,032

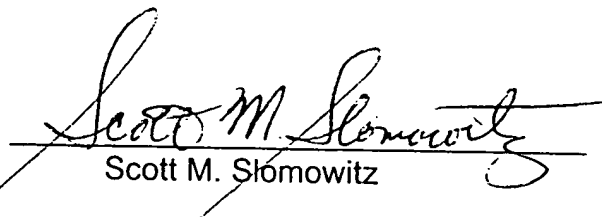
12th Floor, Seven Penn Center  
1635 Market Street

Philadelphia, PA 19103-2212

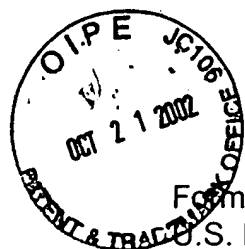
(215) 567-2010

#### CERTIFICATE OF MAILING

I hereby certify that the foregoing INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 CFR 1.97 (b) (1) re application Serial No. 09/628,401, PTO form 1449 listing references and attached references are being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, this 11th day of October, 2000.



Scott M. Slomowitz



Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 1 of 10

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

RECEIVED  
OCT 24 2002  
TECHNOLOGY CENTER BLDG

LIST OF REFERENCES CITED BY APPLICANT

Examiner Initials	Document No.	Issue Date	Name	Class
PPW	AA 1,810,992	6/23/31	Dallwitz-Wegner	
	AB 2,343,061	2/29/44	Irany	265
	AC 2,696,734	12/14/54	Brunstrum, et al.	73
	AD 2,700,891	2/01/55	Shafer	73
	AE 2,934,944	5/03/60	Eolkin	73
	AF 3,071,961	1/08/63	Heigl, et al.	73
	AG 3,116,630	1/07/64	Piros	73
	AH 3,137,161	6/16/64	Lewis, et al.	73
	AI 3,138,950	6/30/64	Welty, et al.	73
	AJ 3,277,694	10/11/66	Cannon, et al.	73
	AK 3,286,511	11/22/66	Harkness	73
	AL 3,342,063	9/19/67	Smythe, et al.	73
	AM 3,435,665	4/01/69	Tzentis	73
PLW	AN 3,520,179	7/14/70	Reed	73



Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 2 of 10

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

RECEIVED

OCT 24 2002

TECHNOLOGY CENTER R3700

LIST OF REFERENCES CITED BY APPLICANT

Examiner Initials	Document No.	Issue Date	Name	Class
R/W	AO 3,604,247	9/14/71	Gramain, et al.	73
	AP 3,666,999	5/30/72	Moreland, Jr. et al.	317
	AQ 3,680,362	8/01/72	Geerdes, et al.	73
	AR 3,699,804	10/24/72	Gassmann, et al.	73
	AS 3,713,328	1/30/73	Aritomi	73
	AT 3,720,097	3/13/73	Kron	73
	AU 3,782,173	1/01/74	Van Vessem, et al.	73
	AV 3,839,901	10/08/74	Finkle, et al.	73
	AV1 3,853,121	12/10/74	Mizrachy, et al.	128
	AW 3,864,962	2/11/75	Stark, et al.	73
	AX 3,908,441	9/30/75	Virloget	73
	AY 3,911,728	10/14/75	Fixot	73
	AZ 3,952,577	4/27/76	Hayes, et al.	73
	AAA 3,967,934	7/06/76	Seitz, et al.	23
	AAB 3,990,295	11/09/76	Renovanz, et al.	73
	AAC 3,999,538	12/28/76	Philpot, Jr.	128

R/W





Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 3 of 10

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

RECEIVED  
OCT 24 2002  
TECHNOLOGY CENTER R3700

U. S. PATENTS

Examiner Initials	Document No.	Issue Date	Name	Class
PPW	AAC1	B1-3,999,538 (Re-Exam Cert)	Philpot, Jr.	128
	AAD	4,083,363	Philpot, Jr.	128
	AAE	4,149,405	Ringrose	73
	AAF	4,165,632	Weber, et al.	73
	AAG	4,193,293	Cavallari	73
	AAH	4,207,870	Eldridge	128
	AAI	4,302,965	Johnson, et al.	73
	AAJ	4,341,111	Husar	73
	AAK	4,417,584	Cathignol, et al.	128
	AAL	4,426,878	Price, et al.	73
	AAM	4,432,761	Dawe	604
	AAM1	4,461,830	Philpot, Jr.	435
	AAN	4,517,830	Gunn, Deceased, et al.	73
	AAO	4,519,239	Kiesewetter, et al.	73
	AAP	4,554,821	Kiesewetter, et al.	73
PPW	AAP1	4,616,503	Plungis, et al.	73



Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 4 of 10

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

RECEIVED  
OCT 24 2002  
TECHNOLOGY CENTER 12/00

U. S. PATENTS

Examiner Initials	Document No.	Issue Date	Name	Class
<i>RPW</i>	AAQ 4,637,250	1/20/87	Irvine, Jr., et al.	73
	AAQ1 4,643,021	2/17/87	Mattout	73
	AAR 4,680,957	7/21/87	Dodd	73
	AAS 4,680,958	7/21/87	Ruelle, et al.	73
	AAT 4,750,351	6/14/88	Ball	73
	AAU 4,856,322	8/15/89	Langrick, et al.	73
	AAV 4,858,127	8/15/89	Kron, et al.	364
	AAW 4,884,577	12/05/89	Merrill	128
	AAX 4,899,575	2/13/90	Chu, et al.	73
	AAY 4,947,678	8/14/90	Hori, et al.	73
	AAZ 5,099,698	3/31/92	Kath, et al.	73
	ABA 5,142,899	9/01/92	Park, et al.	73
	ABB 5,181,415	1/26/93	Esvan, et al.	73
	ABC 5,222,497	6/29/93	Ono	128
	ABD 5,224,375	7/06/93	You, et al.	73
	ABE 5,257,529	11/02/93	Taniguchi, et al.	73
<i>RPW</i>	ABF 5,271,398	12/21/93	Schlain, et al.	128



Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 5 of 10

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

RECEIVED  
OCT 24 2002  
TECHNOLOGY CENTER

U. S. PATENTS

Examiner Initials	Document No.	Issue Date	Name	Class
RW	ABG 5,272,912	12/28/93	Katsuzaki	73
	ABH 5,327,778	7/12/94	Park	73
	ABI 5,333,497	8/02/94	Br nd Dag A. et al.	73
	ABJ 5,365,776	11/22/94	Lehmann, et al.	73
	ABK 5,421,328	6/06/95	Bedingham	178
	ABK1 5,443,078	8/22/95	Uflacker	128
	ABL 5,447,440	9/05/95	Davis, et al.	435
	ABM 5,491,408	2/13/96	Rousseau	324
	ABN 5,494,639	2/27/96	Grzegorzewski	422
	ABO 5,549,119	8/27/96	Solar	128
	ABP 5,629,209	5/13/97	Braun, Sr., et al.	436
	ABQ 5,686,659	11/11/97	Neel, et al.	73
	ABR 5,725,563	3/10/98	Klotz	607
	ABS 5,792,660	8/11/98	Spillert, et al.	436
	ABT 5,837,885	11/17/98	Goodbread, et al.	73
ABU H93	7/01/86	Matta, et al.	73	

(Invention Registration)

RW



Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 6 of 10

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

RECEIVED  
OCT 24 2002  
TECHNOLOGY CENTER R3700

**FOREIGN PATENT DOCUMENTS**

Document No.	Date	Country	Class
WO 92/15878	9/17/92	International	33/49
WO 94/20832	9/15/94	Germany	11/14
WO 99/10724	3/04/99	International	11/04
0 654 286 A1	12/22/94	Europe	5/01

**OTHER PRIOR ART (including Author, Title, Date, Pages)**

Kensey, et al.	Effects of whole blood viscosity On atherogenesis	Journal of Invasive Cardiology Vol. 9, 17, 1997
Leonhardt, et al.	Studies of Plasma Viscosity in Primary Hyperlipoproteinaemia	Atherosclerosis Vol. 28, 29-40, 1977
Ernst, et al.	Cardiovascular Risk Factors and Hemorheology: Physical fitness, Stress and Obesity	Atherosclerosis Vol. 59, 263-269, 1986
Levenson, et al.	Cigarette Smoking and Hypertension	Atherosclerosis Vol. 7, 572-577, 1987
Rillaerts, et al.	Blood Viscosity in Human Obesity; relation to glucose Tolerance and Insulin Status	International Journal of Obesity, Vol. 13, 739-741, 1989
Rosenson, R.	Viscosity and Ischemic Heart Disease	Journal of Vascular Medicine & Biology, Vol. 4, 206-212, 1993
Letcher, et al.	Direct Relationship Between Blood Pressure and Blood Viscosity in Normal and Hypertensive Subjects	Am. Journal of Medicine Vol. 70, 1195-1203, June, 1981

Examiner \_\_\_\_\_

Date Considered \_\_\_\_\_



Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 7 of 10

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

RECEIVED  
OCT 21 2002

OTHER PRIOR ART (including Author, Title, Date, Pages)

Zwick, K.J.	The Fluid Mechanics of Bonding With Yield Stress Exposies, Dissortation	Univ. of Pennsylvania, PA USA, 1-142, 1996
Yarnell, et al.	Fibrinogen, Viscosity, and White Blood Cell Count Are Major Risk Factors for Ischemic Heart Disease	Circulation, Vol. 83, No. 3 March, 1991
Tangney, et al.	Postprandial changes in Plasma and Serum Viscosity And Plasma Lipids and Lipo-proteins After an Acute Test Meal	American Journal of Clinical Nutritiion Vol. 65, pp 36-40, 1997
Seplowitz, et al.	Effects of Lipoproteins on Plasma Viscosity	Atherosclerosis Vol 38, pp. 89-95, 1981
Rosenson, et al.	Hyperviscosity Syndrome in a Hypercholesterolemic Patient with Primary Biliary Cirrhosis	Gastroenterology, Vi, 98, No. 5, 1990
Lowe, et al.	Blood Viscosity and Risk of Cardiovascular Events: the Edinburgh Artery Study	British Journal of Haematology, Vo. 96, 168-173, 1997
Koenig, W.	Blood Rheology Associated with Cardiovascular Risk Factors and Chronic Cardiovascular Diseases: Results of an Epidemiologic Cross-Sectional Study	Amer. College of Angiology, Paradise Island, Bahamas - October, 1987

Examiner \_\_\_\_\_

Date Considered \_\_\_\_\_



Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 8 of 10

RECEIVED  
OCT 2 4 2002  
TECHNICAL SERVICES

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

OTHER PRIOR ART (including Author, Title, Date, Pages)

Hell, K.	Importance of Blood Visco-elasticity in Arteriosclerosis	Intern'l College of Angiology Montreux, Switzerland, July, 1987
Delaunois, A.	Thermal method for Continuous Blood-velocity Measurements in Large Blood Vessels, and Cardiac Output Determination	Medical and Biological Engineering, Marhc 1973, Vol. 11, 201-205
Nerem, et al.	Fluid Mechanics in Atherosclerosis	Handbook of Bioengineering Chap. 21, 20.24 to 21.22
Litt, et al.	Theory and Design of Disposable Clinical Blood Viscometer	Biorheology, Vo. 25, 697-712, 1988
Cooke, et al.	Automated Measurement of Plasma Viscosity by Capillary Viscometer	J. Clin. Pathology Vol. 41, 1213-1216, 1988
Jiminez, et al.	A novel Computerized Viscometer/rheometer	Rev. Sci. Instrum. Vol. 65, (1), pp. 229-241, Jan. 1994
Harkness	A New Instrument for the Measurement of Plasma-Viscosity	The Lancet, New Inventions, pp. 280-281, August 10, 1963
Pringle, et al.	Blood Viscosity and Raynaud's Disease	The Lancet, May, 1965
Walker, et al.	Measurement of Blood Viscosity using a conical cylindrical viscometer	Medical and Biological Engineering, September, 1976

Examiner \_\_\_\_\_

Date Considered \_\_\_\_\_

Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 9 of 10

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

RECEIVED  
OCT 24 2002  
TECHNOLOGY CENTER R3700

OTHER PRIOR ART (including Author, Title, Date, Pages)

Oguraa, et al.	Measurement of Human Red Blood Cell Deformability Using A Single Micropore on a Thin $\text{Si}_3\text{N}_4$ Film	IEEE Transactions on Biomedical Engineering Vol. 38, No. 8, August, 1991
Hausler, et al.	A Newly Designed Oscillating Viscometer for Blood Viscosity Measurements	1996 Vol. 33, No. 4 Biorheology pp.397-404
Martin, et al.	Apparent Viscosity of Whole Human Blood at Various Hydrostatic Pressures I. Studies on Anticoagulated Blood Employing a New Capillary Viscometer	Biorheology Pg.3-12 1978, Vol. 11
Rheinhardt, et al.	Rheologic Measurements on Small Samples With a New Capillary Viscometer	J. Lab. And Clinical Med. Pg. 921-931 Dec. 1984
Chmiel	A New Capillary Viscometer For Clinical use	Biorheology Pg. 301-307 1979, Vol. 12
Pall Corporation	Pall BPF4 High Efficiency Leukocyte Removal Blood Processing Filter System	Pall Biomedical Products Corporation 1993

Examiner\_\_\_\_\_

Date Considered\_\_\_\_\_



Form PTO-1449 (Rev. 7-50)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

Sheet 10 of 10

Applicant : Kenneth Kensey, et al.  
Serial No. : 09/628,401  
Filing Date : August 1, 2000

RECEIVED  
OCT 24 2002  
TECHNOLOGY CENTER R3700

OTHER PRIOR ART (including Author, Title, Date, Pages)

Qamar, et al.	The Goldman Algorithm Revisited: Prospective Evaluation of a Computer Derived Algorithm Versus Unaided Physician Judgment in Suspected Acute Myocardial Infarction	Am. Heart J. 138 Vol. 4, 1999, pp 705-709
---------------	--	--

Examiner\_\_\_\_\_

Date Considered\_\_\_\_\_

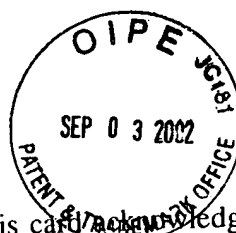




B

REC-  
OCT 24 2002  
TECHNOLOGY C.

App: Kensey, et al.  
ASN: 09/628,401  
Filed: August 1, 2000

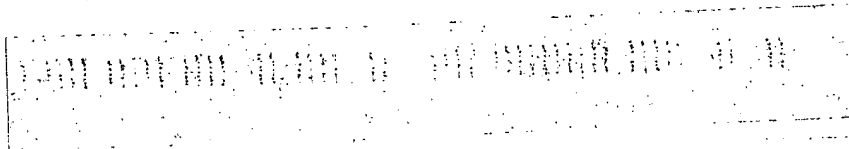


The PTO stamp upon this card acknowledges the receipt  
of a Information Disclosure Statement; PTO Form 1449  
listing reference; copy of reference

---

---

re the above entitled matter.  
SMS/jpf Rheologics, Inc.  
V1025/20044 Mailed 8/30/02





**PATENT**  
**Customer No. 03000**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
PATENT EXAMINING OPERATION**

Applicant(s): Kenneth Kensey, et al.

Serial No: 09/628,401

Group Art Unit: 3736

Filed: August 1, 2000

Examiner: P. Wingood

Att. Docket No.: V1025/20044

Confirmation No.: 5645

**RECEIVED**  
**OCT 24 2002**  
TECHNOLOGY CENTER

For: APPARATUS AND METHODS FOR COMPREHENSIVE BLOOD ANALYSIS,  
INCLUDING WORK OF, AND CONTRACTILITY OF, HEART AND  
THERAPEUTIC APPLICATIONS AND COMPOSITIONS THEREOF

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
Washington, DC 20231

Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the reference listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of the reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference be made of record therein and appear among the "References Cited" on any patent to issue therefrom. No representation is made that the reference is prior art with respect to this application.

Application No. 09/628,401

This Information Disclosure Statement is being filed before the mailing of a first Office Action on the merits under 37 CFR § 1.97(b)3.

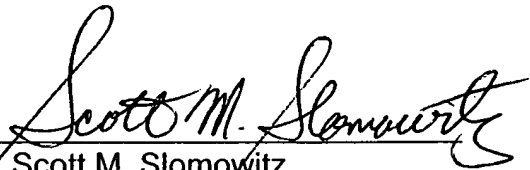
Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,  
COHEN & POKOTILOW, LTD.

August 30, 2002

Please charge or credit our  
Account No. 03-0075 as  
necessary to effect entry  
and/or ensure consideration  
of this submission.

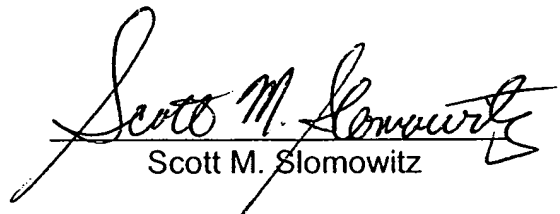
By




Scott M. Slomowitz  
Registration No. 39,032  
Customer No. 03000  
(215) 567-2010  
Attorneys for Applicants

### CERTIFICATE OF MAILING

I hereby certify that the foregoing Information Disclosure Statement and PTO Form 1449 listing the reference and a copy of the reference re Application No. 09/628,401 are being deposited with the United States Postal services as First Class Mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, Washington, DC, 20231 on this ~~30th~~ day of August, 2002.



Scott M. Slomowitz

Please use a plus sign (+) inside this box 

PTO/SB/O8A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Institute for Form 1449A/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheet as necessary)

Complete if Known

Application Number 09/628,401

Filing Date August 1, 2000

First Named Inventor Kenneth Kensey

Group Art Unit 3736

Examiner Name P. Wingood

Attorney Docket V1025/20044

Confirmation No. 5645

Customer No. 03000

Sheet

1

of

1

## **U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code (if known)		
<i>PKW</i>		6,428,488		Kensey, et al.	8/06/2002

## **FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T
		Office	Number	Kind Code (If known)			

## **OTHER DOCUMENTS - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T

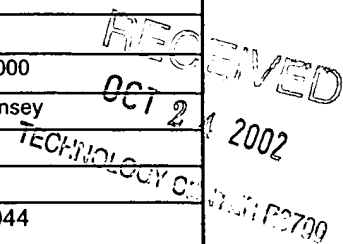
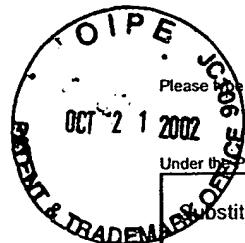
EXAMINER

*Patricia J. Hurd*

DATE CONSIDERED

*1.10.03*

\*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.





C

RECEIVED

OCT 24 2002

TECHNOLOGY CENTER R3700

App: Kensey, et al.

ASN: 09/628,401

for: APPARATUS AND METHODS FOR COMPREHENSIVE BLOOD ANALYSIS,  
INCLUDING WORK OF A CONTRACTILITY OF HEART AND  
THERAPEUTIC APPLICATIONS AND COMPOSITION THEREOF

The PTO stamp upon this card acknowledges the receipt  
of a Supplemental Information Disclosure Statement;  
List of references on PTO Form 1449: Copies of references

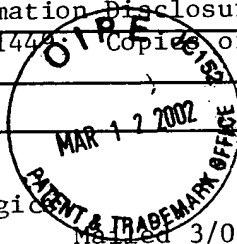
\_\_\_\_\_  
\_\_\_\_\_

re the above entitled matter.

SMS/jpf

V1025/20044

Rheologic



Mailed 3/07/02.



Attach to #13

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
PATENT EXAMINING OPERATION

**PATENT**  
**RECEIVED**  
OCT 24 2002  
TECHNOLOGY CENTER R3700

Applicants: Kenneth Kensey, et al.

Serial No: 09/628,401

Group Art Unit: 3737

Filed: August 1, 2000

Examiner: K. White

Att. Docket No.: V1025/20044

Customer No. 03000

For: APPARATUS & METHODS FOR COMPREHENSIVE BLOOD ANALYSIS,  
INCLUDING WORK OF A CONTRACTILITY OF HEART AND THERAPEUTIC  
APPLICATIONS AND COMPOSITION THEREOF

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
Washington, DC 20231

Sir:

Pursuant to 37 CFR §1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each of the references is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom. No representation is made that the references are prior art with respect to this application.

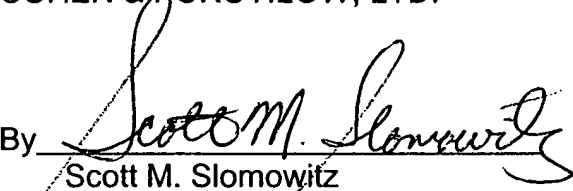
This Information Disclosure Statement is being filed after the period specified in 37 CFR § 1.97(b), but before the mailing date of any of a final action under 37 CFR § 1.113, a Notice of Allowance under 37 CFR § 1.311 or an action that otherwise closes prosecution in the application. Accordingly, I hereby certify that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office(International Search Reports PCT/US01/03907 and PCT/US01/23696) in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. Accordingly, no fee is due. 37 CFR § 1.97(c)(1) and (e)(1).

Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,  
COHEN & POKOTILOW, LTD.

March 7, 2002

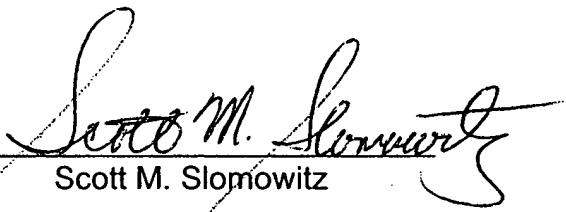
By

  
Scott M. Slomowitz  
Registration No. 39,032  
Customer No. 03000  
(215) 567-2010  
Attorney for Applicants

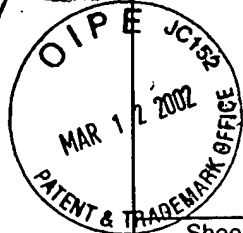
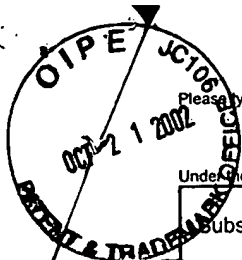
Please charge or credit our  
Account No. 03-0075 as  
necessary to effect entry  
and/or ensure consideration  
of this submission.

**CERTIFICATE OF MAILING**

I hereby certify that the foregoing Supplemental Information Disclosure Statement and PTO Form 1449 listing the reference and a copy of the references re Application Serial No. 09/628,401 are being deposited with the United States Postal services as First Class Mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, Washington, DC, 20231 on March 7, 2002.

  
\_\_\_\_\_  
Scott M. Slomowitz





Please type a plus sign (+) inside this box ☐

PTO/SB/O8A (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for Form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheet as necessary)

Sheet 1 of 1

Complete if Known

Application Number	09/628,401
Filing Date	August 1, 2000
First Named Inventor	Renneth Kensey
Group Art Unit	3731
Examiner Name	K. White
Attorney Docket Number	V4025/20044
Customer No.	03000 2002

### U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code (if known)		
<i>PK</i>		5,066,859		Karkar, et al.	11/19/1991

### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T
		Office	Number	Kind Code (if known)			
<i>PK</i>			WO 01/36936		Kensey, et al.	5/25/2001	
			WO 99/10724		Kensey, et al.	3/04/1999	
			DE 3138514		Myrenne, et al.	4/14/1983	T
<i>PK</i>			2 510 257		Boyer, et al.	1/28/1982	T

### OTHER DOCUMENTS - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
<i>PK</i>		International Search Report No. PCT/US01/03907 - Received 2/22/2002	
<i>PK</i>		International Search Report No. PCT/US01/23696 - Received 2/25/2002	

EXAMINER

DATE CONSIDERED

\*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.